

REMARKS

This paper is being provided in response to the Office Action mailed September 25, 2007, for the above-referenced application. In this response, Applicants have amended claims 1 and 2 to clarify that which Applicants consider to be the claimed invention. Applicants respectfully submit that the amendments to the claims are fully supported by the originally-filed specification. (See, for example, pages 7 and 11 and Figs. 3 and 4 of the originally-filed specification).

Applicants thank the Examiner for the indication of allowable subject matter in claims 2, 5 and 9.

The objections to claims 1-9 under 35 U.S.C. 112, second paragraph, as being indefinite have been addressed by amendments contained herein in accordance with the guidelines set forth in the Office Action. Accordingly, Applicants respectfully request that the objections be reconsidered and withdrawn.

The rejection of claims 1 and 3 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 7,065,175 to Green (hereinafter "Green") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

Independent claim 1, as amended herein, recites a transmission imager including a radiation source for radiating radioactive rays from its a target; a radiation detector; and a

specimen table provided between the target and the radiation detector for having a specimen to be examined placed thereon. The radiation source generates X-rays, the X-rays being generated by the target upon receiving cathode rays emitted from a cathode, wherein a range of X-rays generated is greater than an effective radiation width. The radiation detector is a combination of two, first and second, radiation detectors for detecting transmitted X-rays, the first radiation detector arranged with a detecting surface at a center of the first radiation detector extending substantially at a right angle to a first reference axis which extends from the center to the target, and the second radiation detector arranged with a detecting surface at a center of the second radiation detector extending substantially at a right angle to a second reference axis which extends from the center to the target, the first radiation detector arranged to be moved to and from the target by the action of a driving mechanism and thus positioned further from the target than the second radiation detector. The radiation source is specifically arranged in relation to the two, first and second, radiation detectors so that its target comes at an angle to face a cathode which is disposed closer to the second radiation detector. Claims 2-9 depend directly or indirectly from independent claim 1.

The Green reference discloses an X-ray diffraction based scanning system. The method includes screening for a particular substance in a container at a transportation center using a flat panel detector having a photoconductor X-ray conversion layer to detect X-rays diffracted by a particular substance in the container. The Office Action cites to col. 5, line 54 - col. 6, line 5 and Fig. 2A of Green.

Applicants' independent claim 1, as amended herein, recites a transmission image that includes at least the features of a radiation source generates X-rays, a range of X-rays generated is greater than an effective radiation width and a radiation detector that is a combination of two, first and second, radiation detectors for detecting transmitted X-rays, the first radiation detector arranged with a detecting surface at a center of the first radiation detector extending substantially at a right angle to a first reference axis which extends from the center to the target, and the second radiation detector arranged with a detecting surface at a center of the second radiation detector extending substantially at a right angle to a second reference axis which extends from the center to the target, the first radiation detector arranged to be moved to and from the target by the action of a driving mechanism and thus positioned further from the target than the second radiation detector. Applicants have found that it is advantageous to permit X-rays to be radiated through a wider angle from the X-ray radiation source and that is facilitated by a transmission image as recited that may produce a transmission image from two or more different viewpoints with the use of a simpler arrangement. (See, for example, bottom of page 2 to top of page 3 of the originally-filed specification.)

Applicants submit that Green does not teach or fairly suggest at least the above-noted features as claimed by Applicants. Green discloses detection of X-rays occurring by illuminating an object or substance of interest. Specifically, Green discloses an X-ray diffraction system to detect diffracted X-rays occurring by a crystalline material in the container (see, for example, col. 5, lines 44-61 and Figs. 2A and 2B of Green). Further, Green's X-ray generator generates X-rays in a sheet beam that is limited in expanse in the X and Y direction (see, for example, col. 4, line 33 to col. 5, line 8 and Fig. 8 of Green). In contrast, as noted above, Applicants claims

recite detection of transmitted X-rays and the radiation source generates a range of X-rays that is greater than the effective radiation width. Applicants recite that the radiation detector is a combination of first and second radiation detectors for detecting transmitted X-rays specifically configured as recited in the claim. Thus, a transmission image according to the presently-claimed invention can produce a transmission image from two or more different viewpoints.

Accordingly, Applicants respectfully submit that Green does not teach or fairly suggest at least the above-noted features as claimed by Applicants. In view of the above, Applicants respectfully request that the rejection be reconsidered and withdrawn.

The rejection of claims 4, 7 and 8 under 35 U.S.C. 103(a) as being unpatentable over Green in view of U.S. Patent App. Pub. No. 2004/0120457 A1 to Karella (hereinafter "Karella") is hereby traversed and reconsideration is respectfully requested in view of the amendments to the claims contained herein.

The features of independent claim 1 are discussed above with respect to Green. Claims 4, 7 and 8 depend therefrom.

The Karella reference discloses a scatter reducing device for imaging. The Office Action cites to Karella as disclosing an image intensifier, citing to paragraph 0004 of Karella.

Applicants respectfully submit that Karella does not overcome the above-noted deficiencies of the Green reference with respect to Applicants' presently-claimed invention.

Specifically, Karella discloses detection of scattered x-rays inside a patient or object of interest and including a slot assembly that limits the area illuminated by X-rays from a source (see, for example paragraphs 0017 and 0018 and Fig. 1A of Karella). Accordingly, Applicants respectfully submit that neither Green nor Karella, taken alone or in combination, teach or fairly suggest at least the above-noted features as claimed by Applicants. Accordingly, Applicants respectfully request that the rejection be reconsidered and withdrawn.

Based on the above, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 508-898-8603.

Respectfully submitted,
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